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Conference Abstract

Educating To Recognize and Value Local Biodiversity: From the University to the Community, With the Help of iNaturalist

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Abstract

iNaturalist*[1] is a digital citizen science platform that allows the presence of species to be identified and geolocated. In Chile, it was adopted by the Ministry of the Environment*[2] and is widely used by academics, students and the public. This platform has become a valuable educational tool at the Catholic University of the Most Holy Conception (USCS)*[3], allowing students to experience being protagonists in the generation of knowledge, which is made instantly available to a community of millions of naturalists around the world. In the process, students learn to recognize the various species that exist in a given study site, a fundamental step to value and promote the conservation of biodiversity.

The objective of this work is to share the progress made with 14 projects created since 2021 to the present, brought together under the umbrella project "Naturalists in Action"*[4] (Fig. 1), with its concrete application to the registration of biodiversity on the main university campus, and moving forward into projects that involve community organizations. One hundred and eighty-three students from 23 undergraduate and graduate programs at UCSC (Fig. 2) have participated in these projects, with more than 6400 observations, 1190 species registered and identified, with the online collaboration of more than 800 specialists and naturalists in general (Fig. 1).

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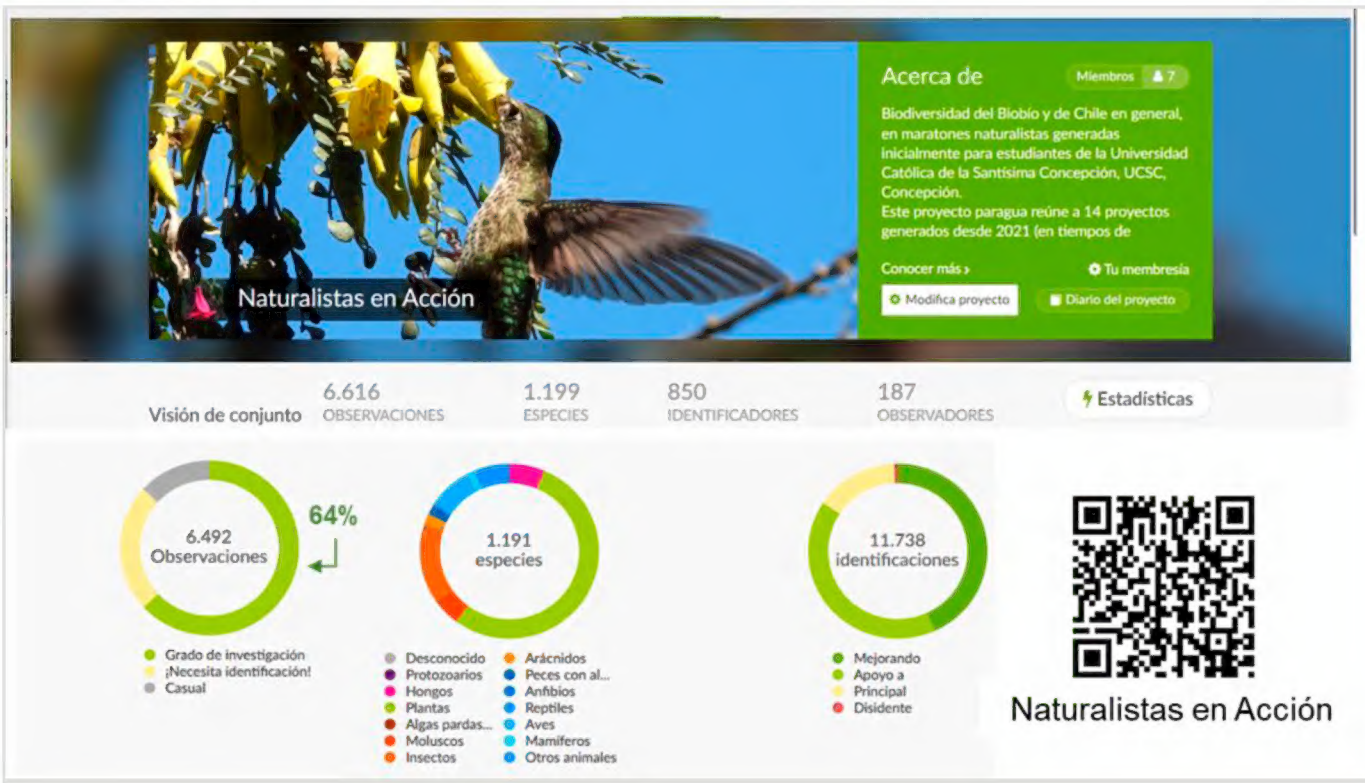

Figure 1.

Naturalist in Action, the iNaturalist umbrella project. Figure modified from a screenshot from iNaturalist website, with information retrieved on September 23, 2025*[4] Figure under the Creative Commons Attribution 4.0 license.

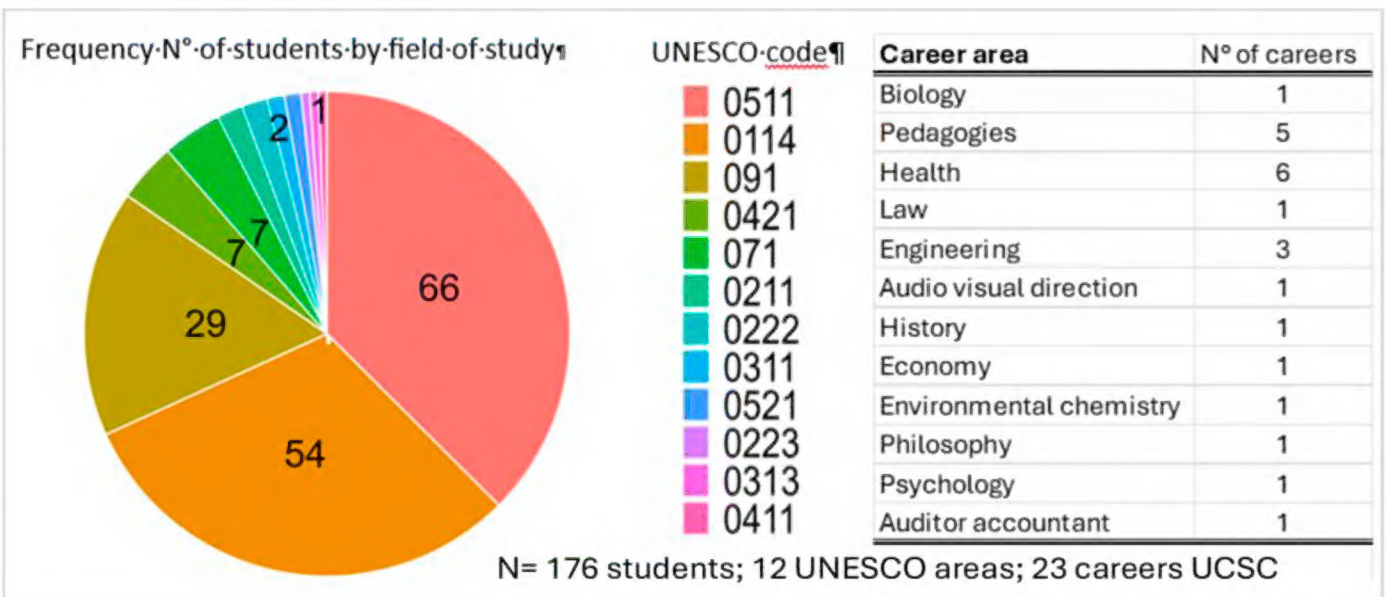

Figure 2.

Composition of the community of students who have learned to use iNaturalist at the UCSC 2021–2025. Figure under the Creative Commons Attribution 4.0 license.

Nearly 70% of the students who learned to use the application in curricular activities at UCSC have remained active on iNaturalist (Fig. 3), showing the interest generated by the knowledge of local biodiversity. In agreement with Di Cecco et al. (2021), a few of them stayed very active (Fig. 3).

The most recent actions involve the creation of collection projects for areas delimited by a .kml file, such as the one created for the San Andrés Campus*[5]. In addition, students and academics have collaborated with citizen organizations that wish to promote the

conservation of nature, in places of interest, by virtue of the biodiversity they host, or for the cultural value they represent. Emblematic iNaturalist projects are the ones generated to accompany the conference cycles created in alliance with the Museo de Historia Natural de Concepción (2024), Museo de Historia Natural de Concepción (2025a), Museo de Historia Natural de Concepción (2025b), entitled "Luciérnagas en Concepción"*[6] and "*Puya chilensis* Santuario de la Naturaleza Península de Hualpén"*[7]. Both include lectures at the Museum and registration of people interested in sighting the organisms of interest in the field. Fireflies and *P. chilensis* are two types of charismatic organisms that help to promote the conservation of habitats and biodiversity on a local scale.

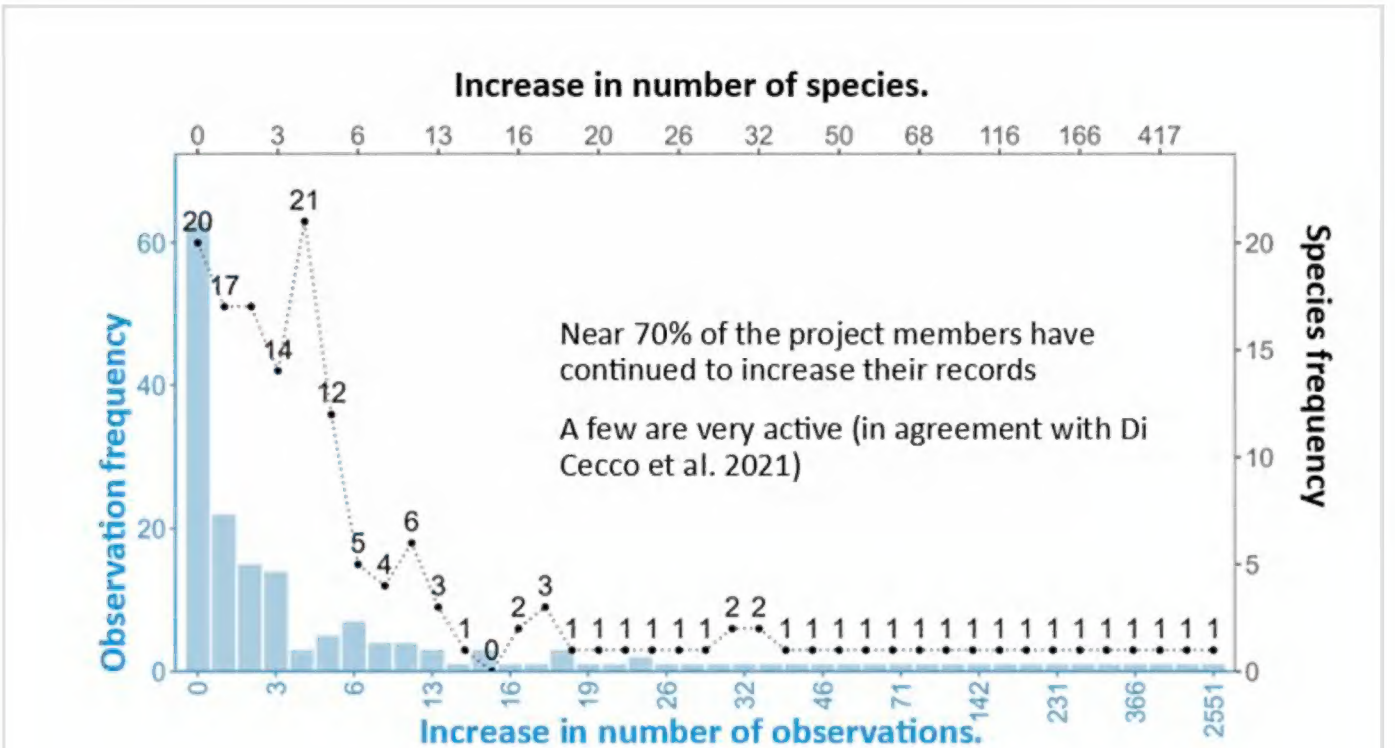
Increase in number of species.
0 3 6 13 16 20 26 32 50 68 116 166 417
20 17 14 21 12 5 4 6 3 1 0 2 3 1 1 1 1 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Observation frequency
0 20 40 60
Species frequency
0 5 10 15 20
Near 70% of the project members have continued to increase their records
A few are very active (in agreement with Di Cecco et al. 2021)
Increase in number of observations.
1 1 1 2 3 4 7 14 23 36 255

Figure 3.

Frequency distribution of the number of new observations (blue bars) and new species records (dotted line, black numbers) contributed since the end of the project by observers involved at UCSC. Figure under the Creative Commons Attribution 4.0 license.

Keywords

environmental education, iNaturalist projects, Concepción, Chile.

Presenting author

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Conflicts of interest

The authors have declared that no competing interests exist.

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Endnotes

*1 https://www.inaturalist.org
*2 https://inaturalist.mma.gob.cl/
*3 https://www.ucsc.cl
*4 https://inaturalist.mma.gob.cl/projects/naturalistas-en-accion
*5 https://inaturalist.mma.gob.cl/projects/biodiversidad-campus-san-andres-ucsc

*6 Luciérnagas en Concepción · iNaturalist Chile: https://inaturalist.mma.gob.cl/projects/luciernagas-en-concepcion

*7 Puya chilensis Santuario de la Naturaleza Península de Hualpén · iNaturalist Chile: https://inaturalist.mma.gob.cl/projects/puya-chilensis-santuario-de-la-naturaleza-peninsula-de-hualpen